

2021 Energy Efficiency Indicator Survey

Global results

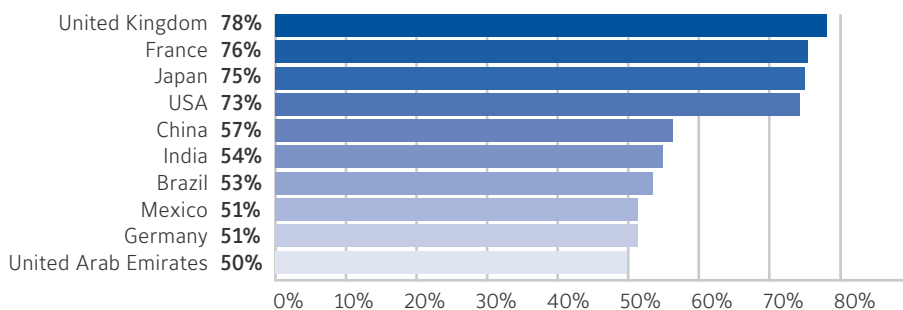


Johnson Controls conducts an annual Energy Efficiency Indicator survey to track current and planned investments, key drivers, and organizational barriers to improving energy efficiency in facilities.

This year marks the 15th edition of the survey with 1,000 respondents represented from ten countries: Brazil, China, France, Germany, India, Japan, Mexico, United Arab Emirates, United Kingdom, and the United States.

Investment in energy efficiency and smart building technology

Organizations planning to increase investment in energy efficiency, renewable energy and smart building technology over the next 12 months



Energy cost savings is the top driver of investment globally

Organizations rating as very or extremely important driver in building energy and technology investment decisions.

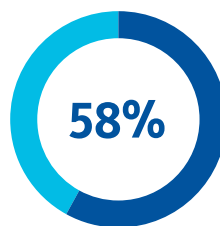
	2021	2019
Energy cost savings	84%	79%
Protecting the health and safety of building occupants during the coronavirus pandemic	80%	--%
Minimizing the use of fossil fuel in space and water heating	78%	64%
Increasing energy security	77%	70%
Improving occupant health and wellness	76%	58%
Enhanced brand or reputation	73%	70%
Customer attraction/retention	72%	65%
Improving life safety and security	71%	72%

Top barriers

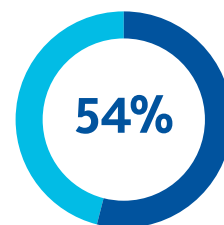
Globally, the top barrier has largely stayed the same since 2016.

Top barriers to investment	
Lack of funding to pay for improvements	25%
Uncertainty regarding savings/performance	23%
Lack of technical expertise to evaluate or execute projects	19%
Insufficient payback/ROI	16%

Comparatively, organizations most frequently encounter the following barriers:



Struggling to scale sustainability initiatives



Lack of technology

Top energy efficiency measures for past 12 months

The measures the most respondents invested in globally over the past 12 months.

Integration of fire/life safety with other building technology systems	67%
Energy-focused behavioral or educational programs	66%
Heating, ventilation, and air conditioning improvements	65%
Fire/life safety system improvements	60%
Integration of security systems with other building technology systems	58%
Building controls improvements	56%
Building systems integration	54%
Water efficiency improvements	53%

Decarbonization/electrification measures

The trend of investments in building decarbonization technologies is continuing. Respondents plan to invest more heavily in these measures in the next year.

Percentage of respondents planning to invest in the next 12 months minus the percentage investing in the past 12 months

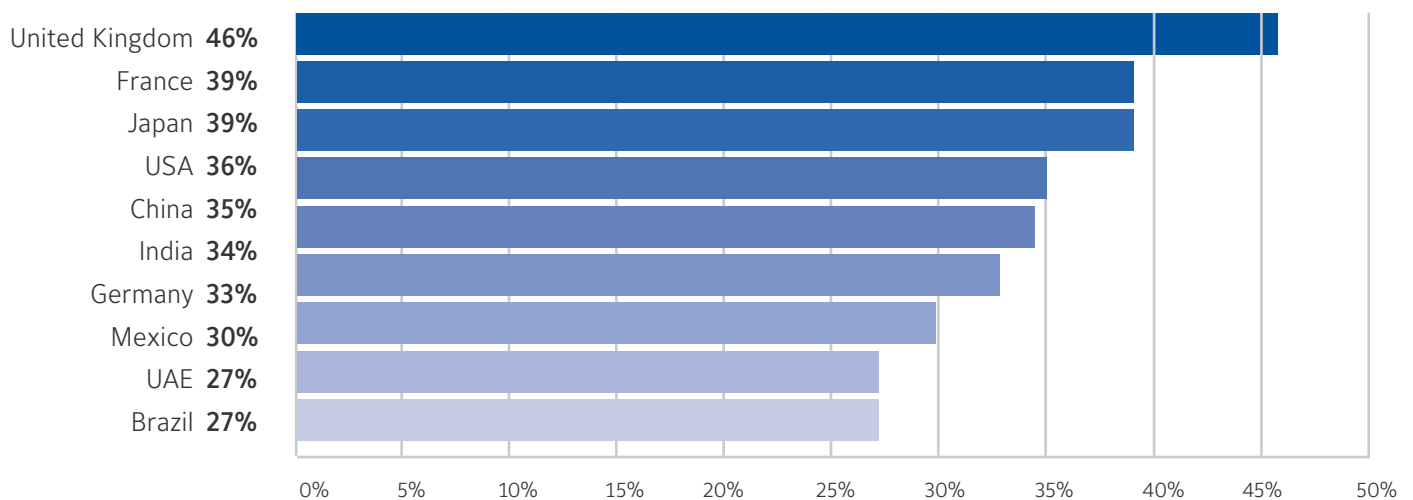
Electric vehicle charging infrastructure	17%
Replacement of fossil fuel space/water heating with heat pump technology	7%
Onsite renewable energy	7%
Electric energy storage	4%
Thermal energy storage	2%

Policies driving energy-efficient improvements in buildings

Organizations rating as very or extremely important

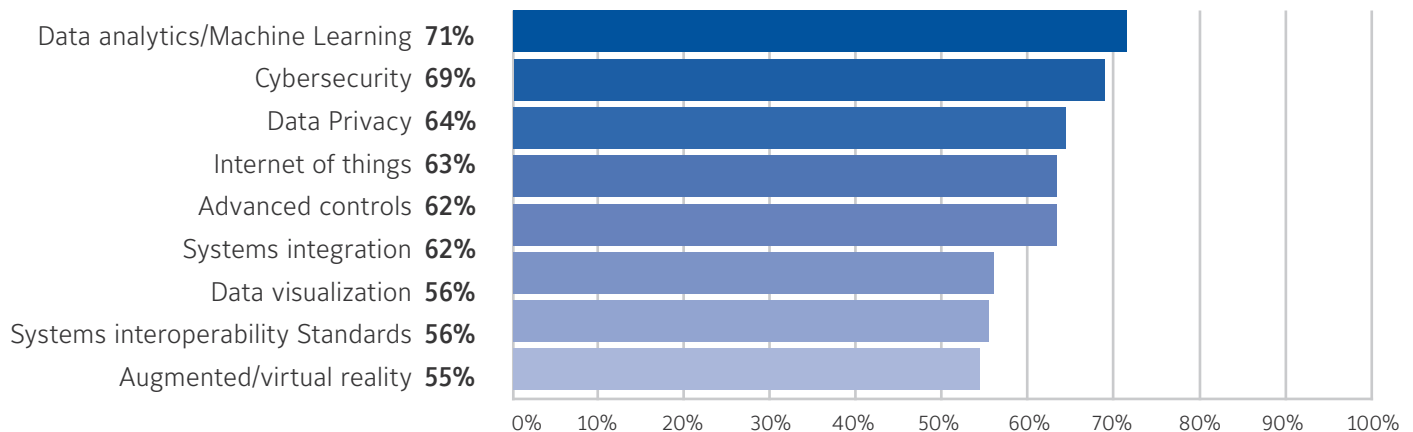
Performance benchmarking and certifications	85%
Financial incentives and programs	75%
Building energy codes and product energy performance standards	72%
Building owner and occupant engagement and partnerships	68%
Government leadership in leasing, building design, and retrofits	67%
Public and private sector building efficiency targets	64%
Private sector engagement in workforce development, performance contracting, and financing	64%
Utility data access, rates, incentives, and programs	62%

Percentage of respondents by country with public energy/carbon reduction goals



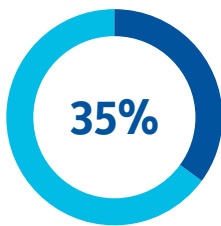
Impact of technology trends on smart buildings over the next 5 years

Respondents believe these trends will have an extremely or very significant impact:



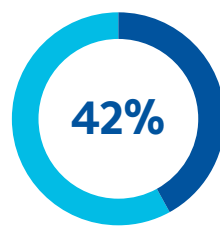
Additional signs of decarbonization: percentage of respondents that...

Plan to install heat pump technology in the next 12 months



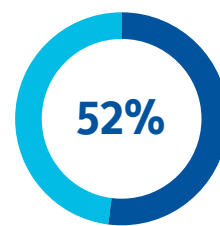
7% more than respondents that implemented in prior 12 months

Plan to install thermal energy storage in the next 12 months



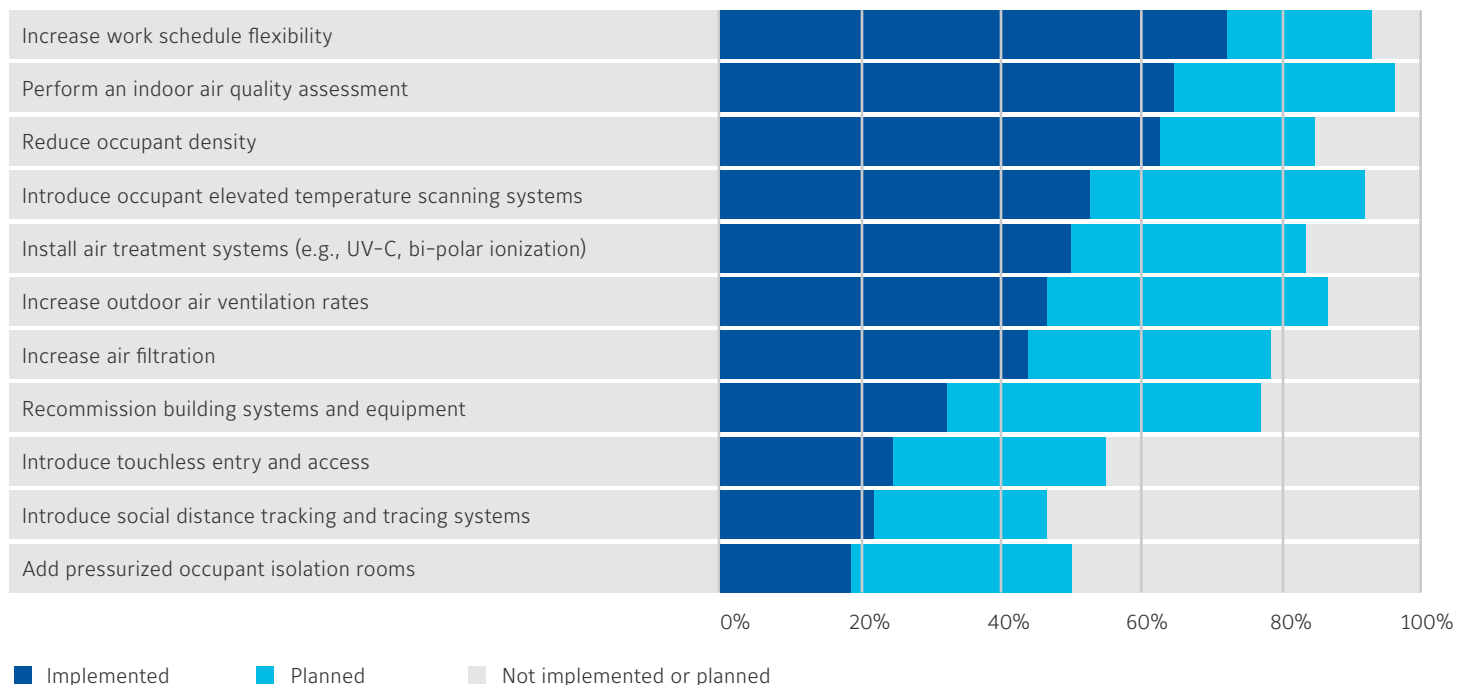
Compared to 2016, +15% plan to install in next 12 months
















Implemented electric energy storage in the past 12 months



+5% implemented in 2021 compared to 2019

Changes respondents have made, or plan to make, in response to the coronavirus pandemic



	Asia	Europe	United States
Green building certification Already achieved or plan to achieve voluntary green building certification	2021 75%  2019 72%	2021 84%  2019 86%	2021 85%  2019 85%
Green building tenant space Willing to pay a premium to lease space in a certified green building	2021 55%  2019 54%	2021 64%  2019 59%	2021 62%  2019 62%
Net zero energy/ carbon Extremely or very likely to have one or more facilities that are nearly zero, net zero or positive energy or carbon status in the next ten years	2021 58%  2019 50%	2021 65%  2019 60%	2021 67%  2019 63%
Operate off the grid Extremely or very likely to have a facility that will operate off the grid in the next ten years	2021 53%  2019 55%	2021 59%  2019 62%	2021 66%  2019 63%
Resilience Indicated that it is an extremely or very important factor when considering future energy and building infrastructure investments.	2021 80%  2019 81%	2021 87%  2019 85%	2021 84%  2019 88%

*Asia includes China, Japan, and India; Europe includes the United Kingdom, France, and Germany; United States includes only the United States.

2021 global survey demographics

To qualify, respondents must have facility budget responsibility and propose or approve energy efficiency initiatives for their organization. The survey was administered anonymously by a third-party research partner. For the 2021 global survey, there was a representative mix of respondents from institutional, commercial, and industrial organizations. In addition, there was a range of organizational titles, including C-level executives, vice presidents, directors and managers.

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